June 19, 1934. M. CUOZZO 1,963,577

SHOE AND METHOD OF MAKING SAME

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Fig. 1

Fig. 2

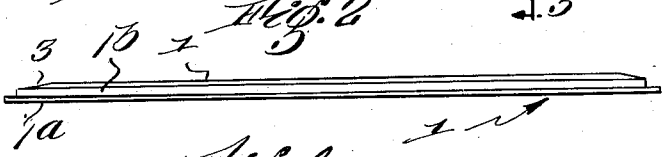


Fig. 3

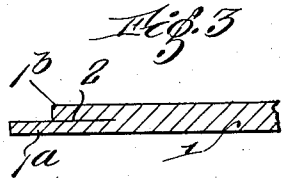


Fig. 3a

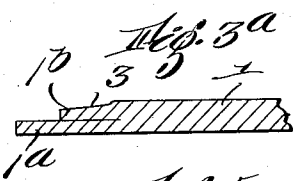


Fig. 4

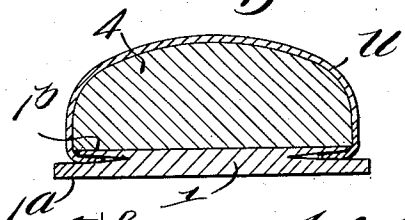


Fig. 5

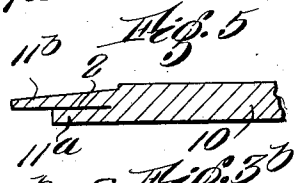


Fig. 3b

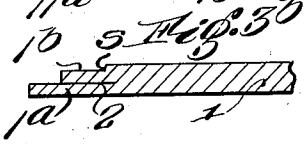


Fig. 7

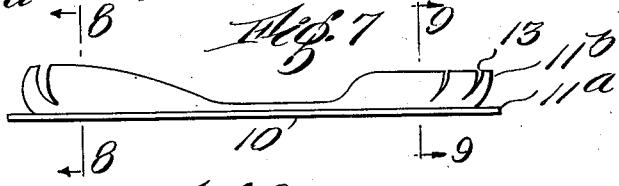


Fig. 8

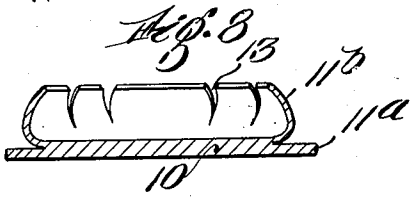
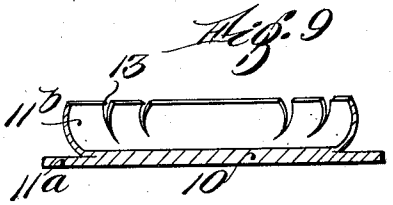


Fig. 9



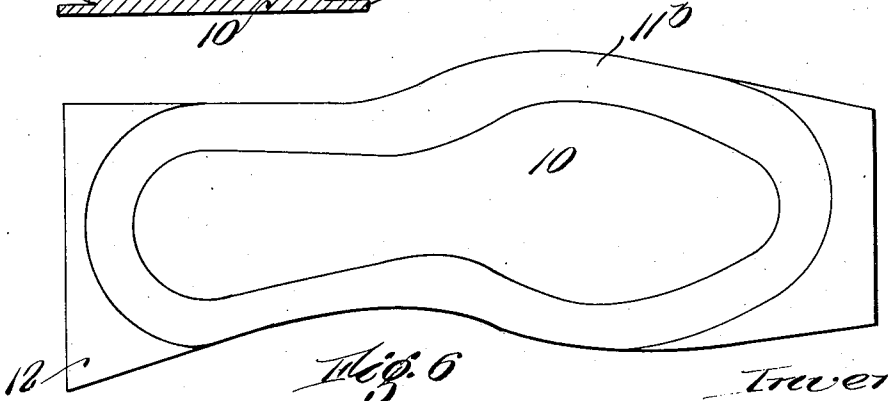


Fig. 6

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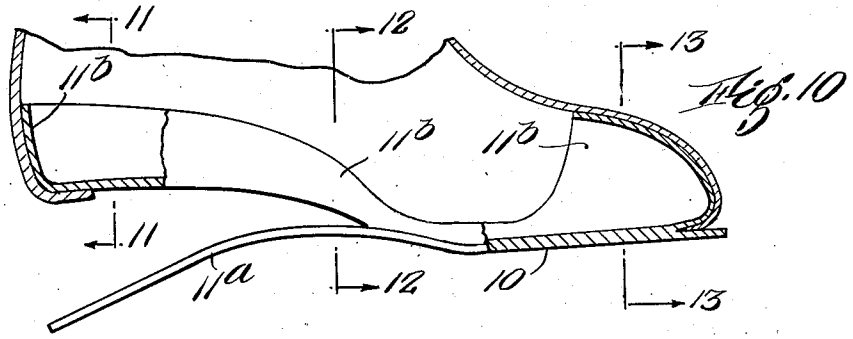

Fig. 10

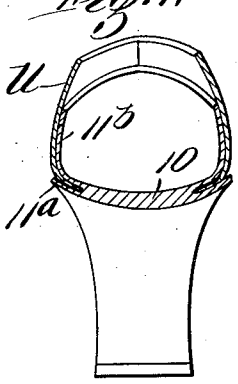

Fig. 11

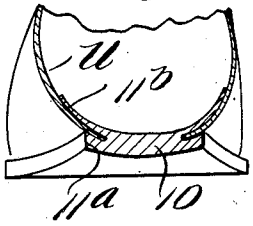

Fig. 12

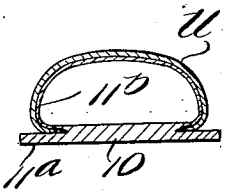

Fig. 13

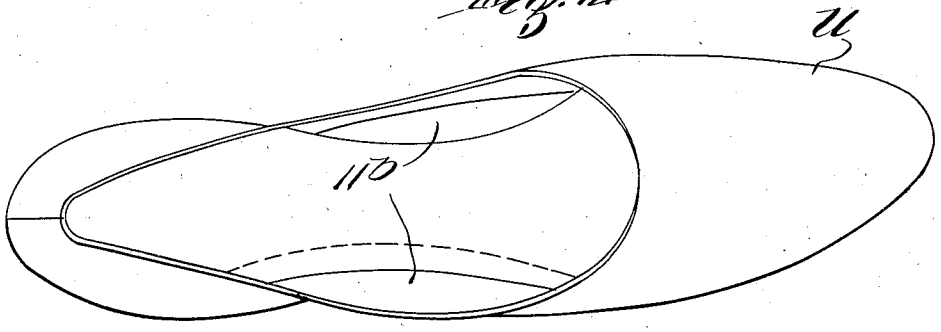

Fig. 14

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SHOE AND METHOD OF MAKING SAME

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Fig. 16.

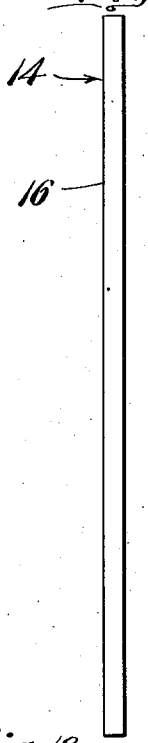


Fig. 15.

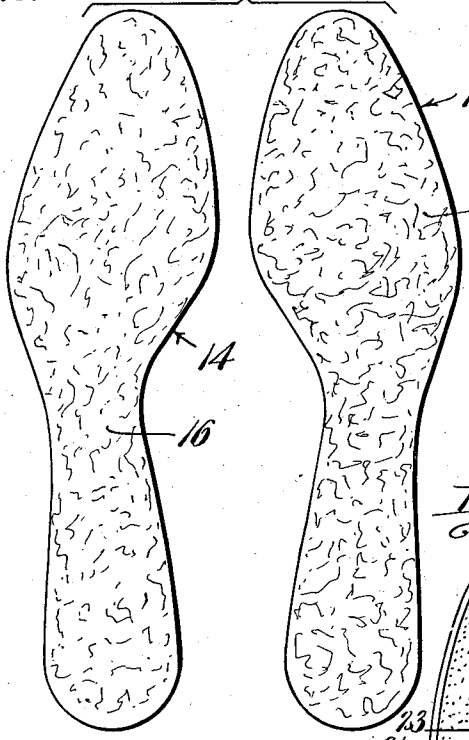


Fig. 20.

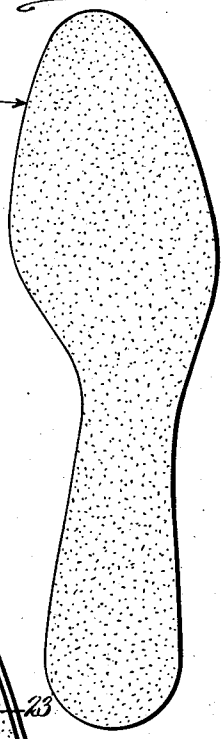


Fig. 22.

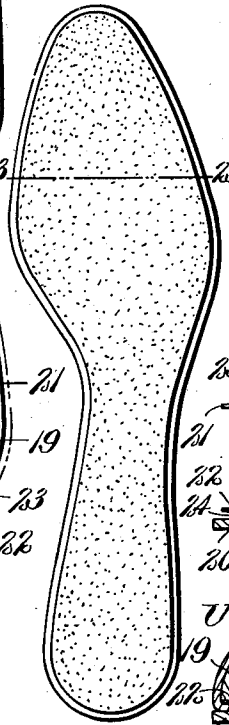


Fig. 18.

Fig. 17.

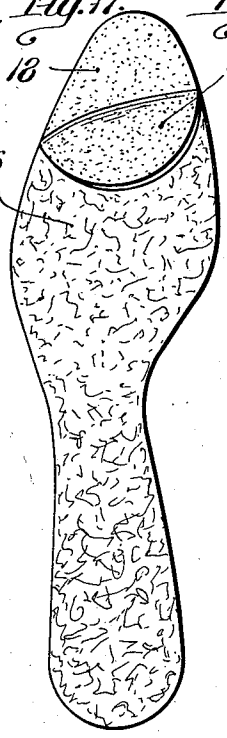


Fig. 19.

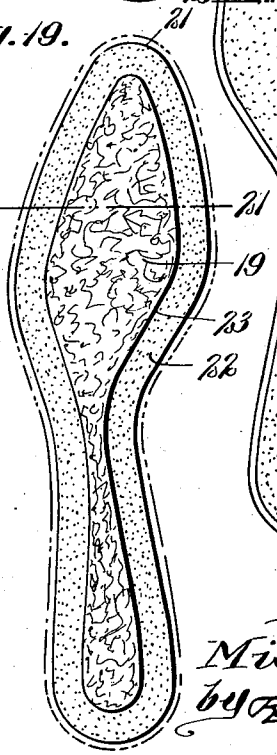


Fig. 21.

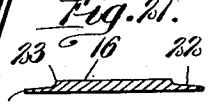


Fig. 23.

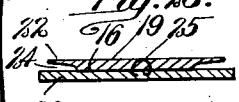
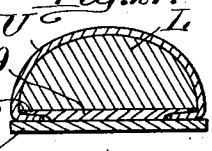


Fig. 24.



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Patented June 19, 1934 1,963,577

UNITED STATES PATENT OFFICE

1,963,577

SHOE AND METHOD OF MAKING SAME

Michele Cuozzo, Lynn, Mass.

Application August 13, 1931, Serial No. 556,744

15 Claims. (Cl. 12—142)

This invention pertains to footwear of that general type in which a single sole is employed, and pertains to a novel construction which permits the shoe to be lasted right side out; which facilitates the use of adhesive as the means for connecting the sole and upper; which affords all of the flexibility of a turn shoe; which may if desired embody a toe cap or box, and/or counter, and/or arch supporting element or elements as integral parts of or attachments to the sole; and further relates to the novel method of making such an article of footwear.

In the accompanying drawings wherein I have illustrated certain desirable embodiments of the invention by way of example, as well as useful steps in the process of preparing a shoe in accordance with this invention,

Fig. 1 is a plan view of a shoe sole embodying the invention in one of its preferred forms;

Fig. 2 is an edge elevation of the sole of Fig. 1;

Fig. 3 is a fragmentary section to somewhat larger scale, on a line such as 3—3 of Fig. 1 for example, indicating the completion of the first step in the process of preparing the sole;

Fig. 3^a is a view similar to Fig. 3 but showing the sole completed and ready for assembly with the upper;

Fig. 3^b is a view similar to Fig. 3^a, but illustrating a modification;

Fig. 4 is a transverse section through a lasted shoe constructed in accordance with my invention and embodying a sole of the kind shown in Figs. 1, 2, 3 and 3^a;

Fig. 5 is a view similar to Fig. 3^a, but illustrating a modified construction;

Fig. 6 is a plan view illustrating one step in the preparation of a sole such as shown in Fig. 5;

Fig. 7 is a side elevation of the sole shown in Fig. 5 as it would appear after the upper flap has been moulded to shape, for example by lasting;

Fig. 8 is a transverse section at the rear part of the sole, substantially on the line 8—8 of Fig. 7;

Fig. 9 is a transverse section at the forward part of the sole, substantially on the line 9—9 of Fig. 7;

Fig. 10 is a fragmentary, longitudinal section of a lasted shoe embodying a sole such as shown in Fig. 7;

Fig. 11 is a section on the line 11—11 of Fig. 10, but showing the shoe heel attached;

Fig. 12 is a section on the line 12—12 of Fig. 10, but showing the shoe completed;

Fig. 13 is a section on the line 13—13 of Fig. 10;

Fig. 14 is a plan view of the shoe shown in Fig. 10;

Fig. 15 is a composite plan view showing a right and a left shoe sole with the flesh side of the sole exposed to view;

Fig. 16 is an edge view of one of these soles;

Fig. 17 is a plan view illustrating one of the preliminary steps in the process as applied to a left sole;

Fig. 18 is a view corresponding to Fig. 17 showing in edge elevation a sole split longitudinally to form a flesh split and a grain split;

Fig. 19 is a plan view showing the flesh split of the left sole at the completion of a further step in the operation;

Fig. 20 is a plan view of the grain split at the right shoe sole;

Fig. 21 is a section of the line 21—21 of Fig. 19;

Fig. 22 is a plan view of the completed right sole comprising the left flesh split and the right grain split;

Fig. 23 is a section on the line 23—23 of Fig. 22; and

Fig. 24 is a transverse section through the forepart of a shoe showing the sole and upper assembled on a last.

Referring to the drawings the numeral 1 designates a shoe sole of a type useful in the making of shoes of the single sole type, the sole 1 constituting both the outer and inner sole. The sole 1 may be made from any suitable material, for example leather, and after being cut to the desired size and contour in accordance with the usual methods, its outer edge is slit inwardly as shown at 2, Fig. 3, by a cut which preferably extends parallel to the upper and lower faces of the sole and which does not remove any appreciable amount of material so that the width of the resultant slit is of unsubstantial thickness. This slit defines the lower marginal flap 1^a and the upper marginal flap 1^b. As shown in Fig. 3 the upper flap 1^b is of somewhat less width than the lower flap, its outer edge being trimmed away either before or after forming the slit 2. In accordance with a preferred construction, the upper surface of the upper flap 1^b is now skived off as shown at 3 so that the flap is thinner at its outer edge than at its inner edge. While this mode of making the upper flap thinner than it was originally is desirable, other methods may be employed, and if desired the upper flap may be made of uniform thickness, (see Fig. 3^b) in which case a distinct shoulder S may appear as defining its inner margin. While it might be possible to obtain desirable results by thinning the

lower flap 1^a instead of the upper flap 1^b, it is preferred to remove the material from the upper flap since the upper surface of the latter represents the poorest part of the material, if leather be used.

After thus preparing the sole 1 and having prepared an upper U in usual manner, except that the lower edge of the upper is trimmed close, the upper and the sole are assembled upon a last 4 in usual manner and the upper is lasted to draw it snugly over the last. The lower edge of the upper is then inserted between the flaps 1^a and 1^b, the flap 1^a being bent upwardly to facilitate this operation if desired, and then the upper is secured to the sole by any suitable form of fastener such for example as stitches, staples, pegs or the like, although preferably a suitable adhesive or cement is employed for the purpose. The upper may be secured to one or both flaps, as desired, although it is preferable in most cases to secure it firmly to both flaps. After the upper has thus been secured in position the shoe may be completed in accordance with usual methods, and since the upper flap 1^b has been thinned down prior to assembly of the parts, the marginal portion of the sole, including the interposed marginal portion of the upper, is not substantially greater in thickness than the main body of the sole. Thus the inner surface of the sole which lies against the substantially flat bottom of the last during lasting retains this shape after the last is withdrawn, thus providing a proper support for the wearer's foot. The shoe, thus constructed, is as flexible as the ordinary turned shoe, although in accordance with this process, it may be lasted right side out. Moreover, by anchoring the upper between integral portions of the sole, it is possible to secure the parts together in a firm and permanent manner while at the same time providing a shoe having a very smooth and flat inner surface.

In accordance with a modified construction as shown, for example, in Fig. 5, the sole 10 may be provided with lower and upper marginal flaps 11^a and 11^b, respectively, the upper flap being substantially wider than the lower flap at certain portions at least of the sole. Thus, if desired, this increased width may be provided at the toe portion, at the heel portion, at the shank portion or at all of these parts if desired.

As illustrated in Fig. 6, soles are commonly cut from blanks 12 which only roughly approximate the contour of the finished sole, and in accordance with this invention, advantage is taken of the surplus material at the margins of the blank to provide for the wide flap 11^b. Thus in the first cutting operation the sole may be died from the blank to a shape such that its outer contour is that of the wide flap 11^b. The blank is then slit inwardly as shown at 2, Fig. 5, to separate the upper and lower flaps and then the lower flap 11^a will be trimmed to the desired contour of the shoe sole proper. The upper flap 11^b is then skived or otherwise thinned in the same way as above described. If the sole is to be used in making shoes having Louis heels, the slit at the rear part of the sole may extend across its entire width so as to provide a flap 11^d (Fig. 10) which in the finished shoe is caused to cover the breast surface of the heel.

Having prepared the sole 10 substantially in the manner described, this sole is then assembled, together with an upper U, upon a last, and those portions of the upper flap 11^b which extend out beyond the lower flap 11^a are drawn over the outer surface of the last so that during the lasting operation they lie between the last and the upper. The lasting operation is now performed and the pull exerted upon the upper causes the flap 11^b to be moulded to the shape of the last. Preferably, to facilitate such moulding, particularly at the toe, the flap 11^b may be slitted inwardly from its edge at 13, as illustrated in Figs. 8 and 9. Thus, as indicated, in Fig. 10, the flap 11^b may be caused to assume the shape of a toe box and also a counter, and if the widened flap extends along the sides of the sole, the lasting operation results in the formation of an integral arch supporting member which may be provided at one or both sides of the shoe as desired.

While, as shown in Fig. 10, the shoe is indicated as having the toe box, the counter, and the arch supporting member all integral with the sole, it is obvious that any one or more of these parts may be omitted by trimming off or omitting the widened flap at the parts where it is not wanted.

While it is preferable in most cases to make the sole as a single piece from leather or the like, I contemplate that the sole may be of composite type comprising a plurality of layers permanently secured together and that if so constructed the upper and lower flaps may be provided by leaving unattached the marginal portions of the various layers comprising a composite sole.

Thus referring to Figs. 15 and 16, such a composite sole may be made in accordance with a preferred method which is economical of material and which places the stronger and more dense portions of the leather at the places where they are most useful. In accordance with this method I prepare a left and a right sole 14 and 15 respectively in accordance with any usual process, the flesh surfaces of the two soles being indicated at 16. The next step in the process is to split each sole by a cut intermediate its flesh and grain surfaces, as shown at 17 in Fig. 18 so as to form the flesh split 19 and the grain split 18. Preferably the edge of the flesh split 19 is then trimmed off as indicated at 21 (Fig. 19) so that the flesh split is of slightly smaller dimensions than the grain split. The flesh surface of the flesh split is then skived along its marginal portion so as to provide a tapering lip 22 (Fig. 21). As usually performed this skiving operation may leave a distinct shoulder at the point 23 where the beveled surface merges into the flesh surface 17.

The next step in the operation is to take the flesh split from the left sole and assemble it with the grain split from the right sole and vise versa. In thus assembling the flesh split from the left sole with the grain split from the right sole, for example, the flesh surface of the flesh split 19 is opposed to the split surface of the grain split as shown in Fig. 23. As thus arranged the overhanging lip 22 of the flesh split defines a marginal recess 24. This recess is adapted to receive the inturned edge of the shoe upper in the same way as the split between the upper and lower marginal flaps 1^a and 1^b of the construction above described. For example, referring to Fig. 24, the assembled sole members 19 and 20 are shown as disposed against the bottom of a last L about which is drawn the upper U whose edges are interposed between the lip 22 and the member 19 and the opposed surface of the member 20. The parts 19 and 20 may be secured together before assembly with the upper in any desired manner, for example by stitches, staples or adhesive. In accordance with one desired arrange-

ment staples 25 (Fig. 23) may be passed downwardly through the member 19 and into the member 20 within whose thickness they are clenched so that they do not appear at the outer side of the shoe sole.

In this manner it is evident that the flesh surface of the original sole material has been reversed so that it is disposed at the mid-section of the sole where its looser texture is of little importance, while the harder portions of the material are arranged at those parts where they are best capable of withstanding strains of manufacture and use.

I claim:

1. A shoe sole having integrally united upper and lower marginal flaps adapted to receive the lower edge of a shoe upper between them, the upper flap being wider than the lower flap and extending upwardly to constitute a counter for the shoe.

2. A shoe sole having upper and lower marginal flaps adapted to receive the lower edge of a shoe upper between them the upper flap being of greater width than the lower flap and extending upwardly at the forepart of the sole to form a toe box for the shoe.

3. A shoe sole having upper and lower marginal flaps adapted to receive the lower edge of a shoe upper between them, the upper flap being wider than the lower flap at the shank portion of the sole and extending upwardly at one side at least to form an arch-supporting member at the shank portion of the shoe.

4. A shoe sole having integrally united upper and lower marginal flaps adapted to receive the lower edge of a shoe upper between them, the upper flap being of greater width than the lower flap and tapering in thickness toward its outer edge, said upper flap being adapted to lie between the upper and the last during lasting so as to be molded to the shape of the last during the lasting operation.

5. That method of making shoes which comprises supplying a sole having upper and lower marginal flaps, the upper flap being wider than the lower flap at one portion of the sole, at least, assembling the sole and an upper upon a last, with the upper flap of the sole interposed between the shoe upper and the lateral surface of the last, lasting the shoe thereby molding the upper flap to the contour of the outer surface of the last, and securing the edge of the upper between the flaps adjacent to their line of union.

6. That method of making shoes which comprises supplying a sole having upper and lower marginal flaps, causing the toe portion of the upper flap to assume the form of a toe box, and securing the edge of an upper between the flaps adjacent to their line of union.

7. That method of making shoes which comprises supplying a sole having upper and lower flaps, the upper flap being wider than the lower flap at the heel portion at least, shaping the wide portion of the upper flap to cause it to assume the form of a shoe counter, and securing the edge of an upper between the flaps adjacent to their line of union.

8. That method of making shoes which comprises supplying a sole having upper and lower flaps, the upper flap being wider than the lower flap, at one side at least of the shank portion of the sole, causing such wide portion of the upper flap to curve upwardly to form an arch support, and securing the edge of an upper between the flaps adjacent to their line of union.

9. A shoe sole comprising a flesh split and a grain split, the flesh split having beveled edges forming a tapering marginal lip and having its flesh surface disposed in juxtaposition to the grain split, and an upper having its marginal edge disposed between said tapering lip and the adjacent surface of the grain split.

10. A shoe structure comprising a sole having integrally united upper and lower marginal flaps, the periphery of the lower flap constituting the exposed outer edge of the tread portion of the sole, the upper flap being substantially wider than the lower flap, said upper flap curving sharply upward from the plane of the tread portion of the sole, the toe portion of the upper flap also curving inwardly to overlie the toe portion of the wearer's foot.

11. A shoe structure comprising a sole having integrally united upper and lower marginal flaps, the upper flap being wider than the lower flap and extending upwardly, the front and rear portions of said upper flap being shaped substantially to conform to the heel and toe parts of a shoe upper.

12. A shoe structure comprising a sole having marginal flaps extending inwardly from its edge, the free edge of the upper flap being divided by slits extending inwardly from said edge, the forward part of the upper flap being shaped to overlie the toe portion of the wearer's foot.

13. That method of making shoes which includes supplying a sole having an inwardly extending slit in its edge dividing its marginal portion into upper and lower flaps and causing the toe portion of the upper flap to assume substantially the shape of a toe box.

14. A shoe, said shoe having a composite sole structure and an upper, the sole structure comprising a grain split and a flesh split, the inner or flesh surface of the flesh split being opposed to the inner or split surface of the grain split, the edge of the upper being interposed between the opposed surfaces of the grain and flesh splits, and means permanently securing the several parts in assembled relation.

15. A shoe, said shoe having a sole structure and an upper, the sole structure comprising a grain split and a flesh split, the grain surface of the grain split being outermost, the flesh split being reduced in thickness along its margin to form a recess at the flesh side thereof, said flesh side of the flesh split being opposed to the inner or split surface of the grain split, the edge of the upper being disposed in the marginal recess of the flesh split and between the flesh split and the inner surface of the grain split, and means permanently uniting the grain split, the flesh split, and the upper.

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